

Record of the Heteronemertean *Cerebratulus signatus* (Nemertea: Pilidiophora: Lineidae) from off Rishiri Island, Hokkaido

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Introduction

Our knowledge on the nemertean fauna in Rishiri depends entirely on Iwata (1954), who reported the following nine species based on material from the intertidal zone: *Amphiporus cervicalis* (Stimpson, 1857); *Kulikovia alborostrata* (Takakura, 1898) (as *Lineus alborostratus*); *Lineus fulvus* Iwata, 1954; *Nipponnemertes bimaculata* (Coe, 1901) (as *Amphiporus bimaculatus*); *Nipponnemertes punctatula* (Coe, 1905) (as *Amphiporus punctatulus*); *Oerstedia venusta* Iwata, 1954; *Paranemertes peregrina* Coe, 1901; *Quasitetrastemma nigrifrons* (Coe, 1904) (as *Tetrastemma nigrifrons*); and *Tubulanus punctatus* (Takakura, 1898). Virtually nothing is known about subtidal nemerteans in waters around Rishiri Island.

Records of the heteronemertean *Cerebratulus signatus* Coe, 1905 are scarce. The species was originally described based on a single specimen dredged by the United States Steamer *Albatross* from a depth of 61 fathoms (110 m) at 53°47'N, 167°14'W, off Unalaska Island, Bering Sea (Coe, 1905). Chernyshev (2008, 2014) found specimens of *C. signatus* in the far-east Russian waters along the southeastern coast of Sakhalin, in Peter the Great Bay and Aniva Bay, and off Kunashir Islands at depths of 10–71 m; several specimens were found among stomach contents

of flounders in Peter the Great Bay. Kajihara (2017) reported the occurrence of *C. signatus* from off Iwate, Japan, at 200 m depth.

In this article, we add *Cerebratulus signatus* as the 10th species to the list of nemerteans known to Rishiri, based on material obtained subtidally.

Material

A single specimen of an anterior fragment of a heteronemertean along with a few other body fragments putatively derived from the same individual were obtained by a fishery gillnet at a depth of 90 m, off Oshidomari, Rishiri Island, Japan (45°18'55"N 141°13'32"E), on 1 October 2019 by Mr. Ichiro Izumi. The anterior fragment was anesthetized by menthol and fixed in 10% formalin seawater. The other fragments were fixed in 99% EtOH. The voucher material has been deposited in the Rishiri Town Museum with the catalogue number RTMInv 0001.

Results and Discussion

The anterior fragment measured 36.8 cm long and maximally 3.3 cm wide in an anesthetized state (Fig. 1A). The body is dorsoventrally flattened, dark goldenrod in color, dorsally decorated with a dark brown marking comprised of a median longitudinal stripe and discontinuous aggregations of dots arranged along a pair of



Fig. 1. *Cerebratulus signatus* Coe, 1905, anterior body fragment, RTMInv 0001. A, General shape, dorsal view; B, general shape, ventral view; C, magnification of head, dorsal view; D, magnification of head, ventral view.

longitudinal rows on both sides, each situated between the median line and the lateral edge of the body; intermittent black lines often traverse the median stripe running between the rows of dots, arranged more or less at a regular interval. There is no marking on the ventral surface of the body (Fig. 1B). The mid-dorsal stripe extends anteriorly almost to the tip of the head (Fig. 1C). The horizontal cephalic slits extend backward slightly behind the anterior edge of the mouth opening (Fig. 1D). The mouth is not so large, only 3–4 mm long, much shorter than the width of the head (Fig. 1D).

The present specimen agrees with the original description of *Cerebratulus signatus* from the Bering Sea (Coe, 1905, p. 194, pl. 4, figs 42, 43) by

having the narrow mid-dorsal stripe and paired rows of dots situated about midway between the lateral margins of the body and the mid-dorsal stripe. The Rishiri specimen differs from the type material in that it has discontinuous transverse lines more or less regularly arranged on the dorsal surface between the rows of dots. By this feature, the present Rishiri material appears similar to a specimen from Peter the Great Bay (Chernyshevy, 2014, p. 128, fig. 10). The transverse stripes are more discontinuous in a specimen from off Iwate (Kajihara, 2017, p. 424, fig. 16.2r) than they are in the present Rishiri material.

This study represents the second record of *C. signatus* in Japan, as well as the first record

of the species from waters around Rishiri. The species seems to be widely distributed subtidally in the North Pacific.

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References

- Chernyshev, A. V., 2008. Fauna of nemerteans of Amursky Bay and the adjacent areas. In Lutaenko, K. L. and Vaschenko, M. A. (eds.), *Ecological Studies and the State of the Ecosystem of Amursky Bay and the Estuarine Zone of the Razdolnaya River (Sea of Japan)*, Volume 1, 267–278. Dalnauka, Vladivostok.
- Chernyshev, A. V., 2014. Nemertean biodiversity in the Sea of Japan and adjacent areas. In Sun, S. et al. (eds.), *Marine Biodiversity and Ecosystem Dynamics of the Northwest Pacific Ocean*, 119–135. Science Press, Beijing.
- Coe, W. R., 1905. Nemerteans of the west and northwest coasts of America. *Bulletin of the Museum of Comparative Zoölogy at Harvard College*, 47: 1–318.
- Iwata, F., 1954. The fauna of Akkeshi Bay. XX. Nemertini in Hokkaido (revised report). *Journal of the Faculty of Science, Hokkaido University, Series VI, Zoology*, 12: 1–39.
- Kajihara, H., 2017. Species diversity of Japanese ribbon worms (Nemertea). In Motokawa, M. & H. Kajihara (eds.), *Species Diversity of Animals in Japan*, 419–444. Springer Japan, Tokyo.

利尻島から得られた異紐虫類 *Cerebratulus signatus* (紐形動物門・担帽綱・リネウス科) の記録

柁原 宏・富岡森理

利尻島鴛泊沖（水深 90m）から刺網によって異紐虫類 *Cerebratulus signatus* Coe, 1905 が得られた。本種はアリューシャン列島ウナラスカ島沖の水深 110m から原記載されて以降、ロシア極東（水深 10～71m）、および岩手県沖水深 200m から報告されている。利尻島周辺からは初記録であり、日本からは 2 例目の記録となる。本種は北太平洋に広く分布していることが示唆される。